

Business FinanceAssignment 1

Q1. (d) IRR is the most reliable means of choosing between mutually exclusive projects.

Q2. (a) Market price of share
Earnings per share

Q3. (d) All of the above

Q4. Cash flow from operating activities = operating profit + change in wc
 $= 8,00,000 + (3,50,000 - 2,50,000)$
 $= 9,00,000$

(c) 9,00,000

Q5. (i) cash flow = Sales - Cost - Tax
 $= 2500 - 1500 - (40/100 \times 1000)$
 $= 600$

(ii) Disc rate = 20%.

NPV = PV of inflow - PV of outflow

$$= \left(\frac{2500}{1 + 20/100} \right) - \left(\frac{1500}{1 + 20/100} \right) - \frac{40/100 \times 1000}{1 + 20/100}$$

$$= \frac{2500}{3} - 500 - \frac{400}{3}$$

$$= 500$$

$$\frac{2500}{1.2} = 1900$$

~~Q5~~ Q7. Limitations are:

- ① The statement could have been deliberately distorted by so called creative accounting. This involves the deliberate abuse of the subjectivity inherent in accounting to select accounting policies or make assumptions which tend to bias the figures in the direction chosen by management.
- ② Comparisons can be affected by different accounting policies or by other external factors.
- ③ There could be peculiarities of the trade which makes it difficult to interpret certain ratios.
- ④ It diverts attention from the figures & statements themselves.

~~Q4~~ Q6.

To measure business efficiency, we can use efficiency ratios. They give insight into the effectiveness of the company's management of the components of working capital.

These ratios are:

① Trade Receivables turnover period

It helps to measure the average length of time taken for trade receivables to settle their balance.

$$\text{Trade Rec. turn. period} = \frac{\text{Trade Receivables} \times 365}{\text{Credit Sales}}$$

② Inventory Turnover Period

It helps to assess how much inventory the company holds in relation to the Scale of the company's operations.

$$\text{Inv. Turn. Period} = \frac{\text{inventories}}{\text{cost of sales}} \times 365$$

③ Payables turnover period

These are used to assess payables but this may be difficult to calculate in real world as companies do not disclose their purchase figures.

$$\text{payable turn. period} = \frac{\text{payables}}{\text{credit purchases}} \times 365$$

Q8- i) β is the unit to express systematic risk. If the $\beta > 1$, market ^{and the bus.} can be good as well as both can be bad.

If the $\beta < 1$, market is falling but the business does not have a problem as such.

If $\beta = 0$ then there's no risk (risk free)

If β is -ve which some business have means that the other businesses are going bad but mine is doing good.

Reason for different beta is that they may be taking different things to calculate beta.

The beta may vary depending upon the nature of the business.

(ii) $\beta_{\text{geared}} = 1.1$

$D/E = 1:2$

Corporate tax = 30% (t)

$$\beta_{\text{geared}} = \beta_{\text{ungeared}} \left[1 + \frac{D}{E} (1-t) \right]$$

$$\Rightarrow 1.1 = \beta_{\text{ungeared}} \left[1 + \frac{1}{2} (1-30\%) \right]$$

$$\beta_{\text{ungeared}} = \frac{1.1}{1.35} = 0.814$$

If $D/E = 2:2$

$$\begin{aligned} \beta_{\text{geared}} &= 0.814 [1 + (1-0.3)] \\ &= \underline{\underline{1.3838}} \end{aligned}$$

9. (d) In general, the market value of investment trust is not correlated to the net present value.

10. ii) The problems are:

→ There may be a dispute or clash of shareholders and company's ideas

→ managers may not always act in the interest of the shareholders

(ii) Market price per share = ₹ 70

Dividend per share = ₹ 10

Growth rate = 8%

Risk free Return (R_f) = 6%

$\beta = 1.8$ [increases by 80%]

Risk premium

(R_p) = 5%

$$R_{eq} = R_f + R_p \times \beta$$

$$= 6 + (1.8 \times 5)$$

$$= 15\%$$

Share price = $\frac{D/\text{share}}{R_{eq} - \text{growth rate}}$

$$= \frac{10}{0.15 - 0.08}$$

$$= \frac{10}{0.07}$$

$$= ₹ 142.857$$

Stock price is ^{approximately} increasing by ₹ 73

Q11.

- (i) We can compare individual stocks with overall market by assessing the beta (β) of the stock. For company i:

$$\beta_i = \sigma_{im} / \sigma_m^2$$

where σ_m^2 is the variance of the market index and σ_{im} the covariance between the individual stock's return ^{and} that of the market.

- (ii) A beta can be determined by:

~~Let~~ Let A be a company

$$\beta_A = \frac{\text{cov}(A, \text{Mkt})}{\text{var Mkt.}}$$

$$\begin{aligned} \beta &= \frac{\sigma_{AM}}{\sigma_m^2} \\ &= \frac{\sigma_A \times \sigma_m \times \rho_{AM}}{\sigma_m^2} \quad \rho_{AM} \rightarrow \text{correlation} \\ &= \rho_{AM} \frac{\sigma_A}{\sigma_m} \end{aligned}$$

ρ_{AM} is the correlation between the company's stock return and that of the market.

- (iii) As an active stock market investor, β of 1 is better than -1

- (iv) Government bonds have a beta of 0.

12. (i) ~~D~~ E = 1:1

12. (i) Debt / Eq = 1:1

$R_F = 7\%$

gross cost of debt = 9% .

Eq. risk premium (R_p) = 5% .

$\beta = 1.5\%$

$t = 25\%$

$$\begin{aligned} \text{Cost of equity} &= R_F + R_p \times \beta \\ &= 7 + (5 \times 1.5) \\ &= 14.5\% \end{aligned}$$

$$\begin{aligned} \text{Net cost of debt} &= \text{Gross cost} (1 - t) \\ &= 6.75\% \end{aligned}$$

$$\begin{aligned} \text{WACC} &= 6.75 \left(\frac{1}{2} \right) + 14.5 \left(\frac{1}{2} \right) \\ &= 10.625\% \end{aligned}$$

(ii) $\beta_{\text{geared}} = \beta_{\text{ungeared}} \left(1 + \frac{D}{E} (1 - t) \right)$

$\Rightarrow 1.5 = \beta_{\text{ungeared}} \left(1 + \frac{D}{E} (1 - t) \right)$

$\Rightarrow \beta_{\text{ungeared}} = 0.857$

$$\begin{aligned} \text{Req. ret. on eq} &= R_F + (\text{Eq. risk prem} \times \beta_{\text{ungeared}}) \\ &= 7 + (5 \times 0.857) \\ &= 11.285\% \end{aligned}$$

$$13. \quad (i) \quad AF \Rightarrow \frac{1 - (1/1.15)^4}{0.15}$$

$$= 2.855$$

$$NPV = 40,000 \times 2.855 - PV \text{ of outflow}$$

$$0 = 114,200 - PV \text{ of outflow}$$

$$P.I = \frac{NPV}{\text{outflow}} + 1 \Rightarrow 1.064 = \frac{NPV}{114,200} + 1$$

$$NPV = \cancel{80,000} \underline{\underline{27,308.8}}$$

(ii) Cost of capital $\rightarrow$ (i)

$$7380.8 = 40,000 \left(\frac{1 - (1+i)^{-4}}{i} \right) - 114,200$$

$$121,508.8i = 40,000 - 40,000(1+i)^{-4}$$

$$i = 12\%$$

(iii) cost of project = ₹ 1,14,200

(iv) Payback = $\frac{\text{outflow at } t_0}{\text{annual cost saving}}$

$$= \frac{114,200}{4000}$$

$$= 2.86 \text{ yrs}$$

Q14. i)

(a) Current Ratio

The current ratio is calculated by dividing current assets by current liabilities. It provides insight to the companies short-term liabilities. It shows whether the company can meet its current obligations.

$$\text{Curr. Ratio} = \frac{CA}{CL}$$

(b) Debt turnover Ratio

It measures the average length of time taken for trade receivables to settle their bills

$$\text{Debt Turn. Ratio} = \frac{\text{Trade rec.}}{\text{cred. sales}} \times 365$$

(ii) Xylo Ltd. manage should check the current ratio which gives insight to the company's short term liabilities. He/she can understand whether the company can meet its short term obligations.

$$\text{current Ratio} = \frac{\text{Current Assets}}{\text{current liabilities}}$$

Q15. The volatility of the shares are higher which means its riskier to buy it.

As investors would like shares as dividend yield is of 4%.

$$\begin{aligned} \text{Cost of eq} &= \text{div yield} + \text{growth} \\ &= 4\% \quad (\text{Assuming growth} = 0) \end{aligned}$$

$$\text{Net cost of debt} = 8\%$$

$$\text{COC} = 8\% \cdot \left(\frac{1}{2}\right) + 4\% \cdot \left(\frac{1}{2}\right) = 6\%$$

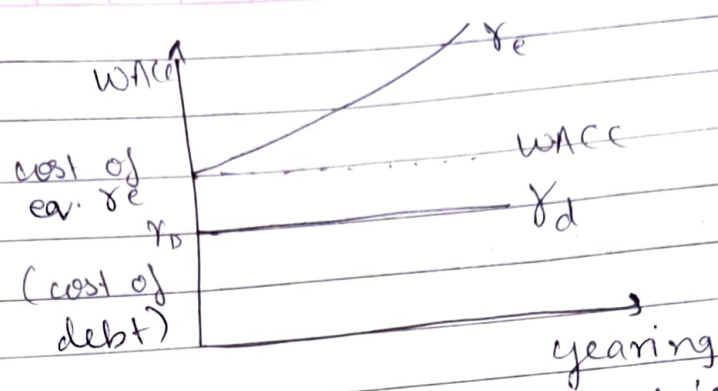
(iii) Modigliani and Miller's first irrelevance proposition states that the market value of the company is primarily dependent on its investment decisions and not its financing decisions.

→ It proposed that gearing will be irrelevant to the value of the company, thereby its weighted avg cost of capital.

→ The assumptions made are

- ① No taxes
- ② Unlimited borrowing
- ③ A perfect market exists
- ④ Debt is Risk free
- ⑤ there are no agency costs

(in)



cost of capit using M.M's first proposition

- (v) (a) $R_F = 6\%$
 $R_P = 5\%$
 $\beta_{\text{ungeared}} = 1.4$

$$\begin{aligned} \text{Cost of eq} &= R_F + R_P \times \beta \\ &= 6 + (5 \times 1.4) \\ &= 13\% \end{aligned}$$

- (b) market cap = 100m
 market value of debt = 50%
 $D/E = 1:1$
 $t = 30\%$

$$\begin{aligned} \beta_{\text{geared}} &= \beta_{\text{ungeared}} \left(\frac{1 + \frac{D}{E}(1-t)}{1} \right) \\ &= 1.4 \left[1 + (1-30\%) \right] \\ &= 2.38 \end{aligned}$$

- (c) $\text{Cost of eq} = R_F + (R_P \times \beta_{\text{geared}})$
 $= 6 + (5 \times 2.38)$
 $\text{Cost of eq} = 17.9\%$